

**ABSTRACT:**

One of the most important water quality issues in the Albemarle-Pamlico watershed and estuary is related to management of reactive nitrogen (Nr). Other important issues include wetland restoration to ameliorate coastal eutrophication, interbasin transfers of water and effects on water quality and aquatic communities, permitting water withdrawals to maintain instream levels needed for biological integrity, and the prioritization of climate adaptation restoration and protection projects to buffer storm energy and control salt water intrusion due to sea level changes.

**PURPOSE STATEMENT:**

This Special Session of the 2011 NC Water Resources Research Institute Annual Meeting will present scientific ideas and results from ecosystem services research that can be used to inform watershed decisions in the Albemarle-Pamlico watershed and estuary related to water quality, water quantity, wetlands, and climate adaptation. Presentations will demonstrate linkages between research results to specific management decisions.

Presentations will fall under the following categories:

Identification and mapping of ecosystem service indicators, drivers, and pressures from different ecosystem types.

Assessment of the condition of ecosystem services provided by rivers, wetlands and coastal waters at a variety of spatial and temporal scales.

Models that relate changes in drivers and pressures to changes in ecosystem state and services and predict responses of watersheds under future scenarios.

Analysis of the combined and cumulative effects of point and non-point pollution sources on the Albemarle-Pamlico airshed, watershed, and estuary.

Decision support tools to assess how management decisions alter ecosystem services, examine tradeoffs or synergies among ecosystem services, and forecast economic and societal costs and benefits of management actions.

**KEYWORDS:** Ecosystem service indicators; reactive nitrogen; Albemarle-Pamlico watershed and estuary; management decisions